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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/725,156	11/29/2000	John D. Blake JR.	414.039	8567
32127	7590	09/12/2005	EXAMINER	
VERIZON CORPORATE SERVICES GROUP INC. C/O CHRISTIAN R. ANDERSEN 600 HIDDEN RIDGE DRIVE MAILCODE HQEO3H14 IRVING, TX 75038			LEVITAN, DMITRY	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/725,156

Applicant(s)

BLAKE ET AL.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 29 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Amendment, filed 07/29/05, has been entered. Claims 1-22 remain pending.

Specification

1. The disclosure is objected to because of the following informalities:

Specification does not provide adequate disclosure of PVD operation. It is unclear how PVD interact with DSL circuits. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claim 1, how to complete calls from said PVDs to subscribers over respective copper loop facilities connecting said PVDs to telephone equipment of said subscribers.

Regarding claim 1, how to convert said calls on said DSL circuits to respective analog POTS signals by and at said PVDs.

Regarding claim 6, how to provide DSL circuits between said number of DSLAMs and respective PVDs.

Regarding claim 10, how to provide voice telephone service to subscribers through respective PVD and NID.

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The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

3. In light of Applicant's amendment, the rejection of claims 1-5 under 35 U.S.C. 112, second paragraph, set in the previous Office Action is withdrawn.

4. Claims 1-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 and 6 limitation "Next Generation network" is unclear because it is not understood what is next generation network, as the disclosure does not provide sufficient information on the next generation network operation.

Claim 10 limitation "Next Generation Switch" is unclear because it is not understood what is next generation switch, as the disclosure does not provide sufficient information on the next generation switch operation.

Claim 6 limitation "assigning a plurality of subscriber lines terminating at said circuit switch" is unclear, because it contradicts the other portion of claim 6 "a number of DSLAMs connected to the circuit switch by a next generation network" therefore connecting the local part of the network to the switch by the next generation network which does not include subscribers lines.

Claim 3 limitation “installing said DSLAM at offsite near respective groups of customers” is unclear, because it is not understood what sites are considered “near” and what sites are not.

Claim Rejections - 35 USC § 103

8. Claims 1-17, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel (US 6,639,913) in view of Admitted Prior Art (Application, Background Art, page 4, network interface device or NID).

5. Regarding claims 1 and 5, Frankel teaches a method for providing voice grade service to a plurality of subscribers using existing telephone loop facilities (Fig. 1 and existing copper wire pair lines 2:12-19), comprising:

Configuring said telephone loop facilities to provide plural DSL circuits (DSL lines 24 on Fig. 8 and 4:22-24) between a DSLAM connected to said telephone loop facilities (DSLAM 64 connected to lines 24 on Fig. 8) and a remote facility (RDT 500 on Fig. 8 and 12:23-37);

Assigning a plurality of subscriber lines to each of the DSL circuits (lines connecting subscribers TD 10 to RDT 500 on Fig. 8);

Receiving calls to said plurality of subscriber lines at a next generation network (receiving calls through Internet 50 on Fig. 8 and 5:13-22), said next generation network including a switched voice gateway (data switch 62 on Fig. 8, inherently operating as a gateway, because it connects local packet network 60 to Internet) and at least one digital packet routing system (inherently part of Internet, because Internet comprises numerous digital packet routing systems), the calls received from a circuit switch terminating said calls and connected to the next

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generation network (calls received from circuit switch 34 connected to Internet as shown on Fig. 8 and 5:13-22);

Routing said calls to an associated one of said DSL circuits via DSLAM (from DSLAM 64 to DSL circuit 24 between HDT 200 and RDT 100/500 9:31-52), said DSLAM connected to the next generation network (DSLAM 64 connected to Internet 50 through data switch 62 as shown on Fig. 8);

Transmitting said calls to said remote facility on said DSL circuit (transmitting calls through DSL lines 24 to RDT 100/500 as shown on Fig. 8 and 4:22-24);

Receiving said calls on said remote facility at respective PVDs (DSL modems 120, SRAM 130, ROM 140, CODECs 160, SLICs 150 and controller 110 on Fig. 9 and 12:29-53) located at said remote facility;

Converting said calls on said DSL circuits to respective POTS signals by and at said PVDs (CODECs and SLICs converting DSL/RDT circuits into POTS signals 12:29-42);

Transmitting said POTS signals to the subscribers over respective copper loop facilities connecting PVDs to the telephone equipment of said subscribers (SLICs 150 are connected to the customer TD 10 by a standard analog telephone line 6:1-20 and transmit POTS signals to the customers 12:32-36).

Completing calls from the PVDs to ones of said subscribers (9:31-52);

Frankel does not teach using NIDs to connect the subscriber's equipment to outside network.

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Admitted Prior Art teaches using NIDs to connect the subscribers equipment to outside network Application, Background Art, page 4, network interface device or NID as a demarcation point between the LEC and a subscriber).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using NIDs to connect the subscriber's equipment to outside network of Admitted Prior Art to the system of Frankel to improve the system maintenance, using NIDs as a demarcation point between the customer's equipment and LEC facilities, and to improve the system reliability, as NIDs often comprise the protection devices.

6. Regarding claim 6, Frankel teaches an existing telephone network comprising interconnected central offices providing services via a circuit switch (central switching facility 34 on Fig. 8) to nearby subscribers connected by local loop facilities including a feeder distribution system connecting the central offices to respective serving area and local drops (PSTN 42 on Fig. 1 and 8), comprising:

A number of DSLAMs connected to said telephone loop facilities (DSLAMs 64 connected to lines 24 on Fig. 8) and a remote facility (RDT 500 on Fig. 8 and 12:23-37);

DSLAMs connected to the circuit switch (DSLAMs 64 is connected to central switching facility 34 on Fig. 8) by a next generation network (Internet 50 on Fig. 8 and 5:13-22), said next generation network including a switched voice gateway (data switch 62 on Fig. 8, inherently operating as a gateway, because it connects local packet network 60 to Internet) and at least one digital packet routing system (inherently part of Internet, because Internet comprises numerous digital packet routing systems), the calls received from a circuit switch terminating said calls and

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connected to the next generation network (calls received from circuit switch 34 connected to Internet as shown on Fig. 8 and 5:13-22);

providing plural DSL circuits between number of DSLAMs and respective PVDs (circuits 24 on Fig. 8, connecting DSLAM to RDT 500, comprising PVDs);

Connecting analog outputs of PVDs (connecting DSL modems 120, SRAM 130, ROM 140, CODEC 160, SLIC 150 and controller 110 on Fig. 9, interpreted as PVD, with analog POTS lines on Fig. 9, inherently connected to the protection circuitry 520) to existing copper facilities; and

Assigning a plurality of subscriber lines terminating at said circuit switch to each of said DSL circuits (inherently part of PSTN lines terminating at central switch facility 30 on Fig. 8 to carry the calls to/from respective DSL circuits);

Transmitting said POTS signals to the subscribers over respective copper loop facilities connecting PVDs to the telephone equipment of said subscribers (SLICs 150 are connected to the customer TD 10 by a standard analog telephone line 6:1-20 and transmit POTS signals to the customers 12:32-36);

Connecting a call to a called subscriber associated with one of plurality of subscriber lines via a circuit switch (PSTN lines terminating at central switch facility 30 on Fig. 8), the next generation network (internet 50), one of DSLAMs (DSLAM 64), one of PVD (portion of RDT, modems 120, SRAM 130, ROM 140, CODEC 160, SLIC 150 and controller 110 on Fig. 9, interpreted as PVD) to the called subscriber.

Frankel does not teach using NIDs to connect the subscriber's equipment to outside network.

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Admitted Prior Art teaches using NIDs to connect the subscribers equipment to outside network Application, Background Art, page 4, network interface device or NID as a demarcation point between the LEC and a subscriber).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using NIDs to connect the subscriber's equipment to outside network of Admitted Prior Art to the system of Frankel to improve the system maintenance, using NIDs as a demarcation point between the customer's equipment and LEC facilities, and to improve the system reliability, as NIDs often comprise the protection devices.

7. Regarding claim 10 and 11, Frankel teaches a telephone system comprising:

Network switching facilities including

(i) a switched voice gateway interfaced to a digital switch (a portion of data switch 34 interfacing Internet and therefore operation as a gateway, connected to the digital switch 34 on Fig. 1 or 8 and 5:8-21),

(ii) at least one digital packet switched routing system (inherently part of Internet, because Internet comprises numerous digital packet routing/switching systems) interfaced to the switched voice gateway (as shown on Fig. 8), the at least one digital packet switched routing system including a next generation switch (interpreted as Internet switch/router);

(iii) a DSLAM coupled to said switched voice gateway via the at least one digital packet switched routing system (DSLAM 64 connected to switched voice gateway 34 via Internet comprising the routing system);

A PVD (DSL modems 120, SRAM 130, ROM 140, CODEC 160, SLIC 150 and controller 110 on Fig. 9) connected (a) to said DSLAM via local loop transmission facilities

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(DSL 24 on Fig. 1) and (b) to plurality of copper loops (loops 25 on Fig. 1) providing POTS service to the customers premises 12:30-36).

Frankel does not teach using NIDs to connect the subscriber's equipment to outside network.

Admitted Prior Art teaches using NIDs to connect the subscribers equipment to outside network Application, Background Art, page 4, network interface device or NID as a demarcation point between the LEC and a subscriber).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using NIDs to connect the subscriber's equipment to outside network of Admitted Prior Art to the system of Frankel to improve the system maintenance, using NIDs as a demarcation point between the customer's equipment and LEC facilities, and to improve the system reliability, as NIDs often comprise the protection devices.

8. Regarding claims 2 and 12, Frankel teaches supplying power to PVD independent from local commercial power source (12:65-67 and 13:1-2).

Regarding claim 3, Frankel teaches installing DSLAM at offsite near the respective group of subscribers served by DSL (DSLAM located at the wire center 68 to provide service on local loops links to the customer sites 12:65-66 and 3:30-36).

9. Regarding claim 4, Frankel teaches all the limitations of parent claims 1 and 3 (see the rejections above).

Frankel does not teach DSLAM to supply SAI.

Admitted Prior Art teaches a remote digital terminal supplying SAI, Background Art, page 4.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add supplying SAI of Admitted Prior Art to the system of Frankel to utilize the existing wiring and infrastructure.

Regarding claim 7, Frankel teaches receiving a call from PSTN at the switched voice gateway from the circuit switch, routing calls via DSLAM to an associated DSL circuit (see rejection of claim 6 above); transmitting calls to respective PVD and completing calls to subscribers over copper loop (procedure 9:31-65).

Regarding claims 8 and 9, Frankel teaches detecting off-hook at local drop, transmitting dial tone from central office to the drop through associated DSL circuit (call-setup procedure 8:49-64 including a traditional dial tone 8:58), collecting dialed digits at central office received from local drop through DSL circuit and completing a voice call (making and receiving PSTN calls/full duplex calls in the traditional fashion 9:53-65) via DSL circuit, the voice switched gateway and the circuit switch (see rejection of claim 6 above).

Regarding claim 15, Frankel teaches a packet switch coupling said DSLAM and switched voice gateway (shown on Fig. 8 wherein a DSLAM 64 is coupled to switched voice gateway, portion of data switch 34, through a router/packet switch, inherently used in Internet).

Regarding claims 16 and 21, Frankel teaches locating PVD in a weatherproof enclosure (wire center 58 including WC RDT 500 located in a cabinet or vault, inherently weatherproofing the enclosure 13:4-8) having a plurality of line modules connected to copper loops (SLICs 150 On Fig. 9).

Regarding claim 22, Frankel teaches a digital switch (central switching facility 30 on Fig. 1) includes a switch module (PSTN switch 32 on Fig. 1) including a plurality of analog POTS

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line cards (inherently part of any switch interconnected with PSTN, because PSTN operates with POTS lines) associated with the subscribers (connecting subscribers with PSTN telephones).

10. Claims 13, 14, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frankel in view of Admitted Prior Art.

11. Regarding claims 13 and 14, Frankel teaches the limitations of parent claim 10, including a digital switch interface with DSLAM (line 26 coupling DSLAM through data switch 62 on Fig. 1) and integrating LPN (plurality of DSLAM and data switches) with HDT.

Frankel does not teach using plurality of line cards in a digital switch and utilizing MDF for line cards and DSLAM connections with copper loops.

Official notice is taken that using plurality of line cards in a digital switch and utilizing MDF for line cards and DSLAM connections with copper loops is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use plurality of line cards in a digital switch and utilize MDF for line cards and DSLAM connections with copper loops in the system of Frankel to simplify maintenance on the switch, using replaceable line cards, and on wire connections, using main distribution frame that is present in all central offices.

Regarding claims 18 and 19, Frankel teaches the limitations of parent claim 17, including using protection circuitry on local loops (Fig. 9).

Frankel does not teach using multi-line protector block at central office and add/drop multiplexer and a digital cross connect to connect DLC to the digital switch.

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Official notice is taken that using multi-line protector block at central office and add/drop multiplexer and a digital cross connect to connect DLC to the digital switch is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use multi-line protector block at central office and add/drop multiplexer with a digital cross connect to connect DLC to the digital switch in the system of Frankel to improve the system reliability and flexibility.

Response to Arguments

12. Applicant's arguments filed 07/29/05 have been fully considered but they are not persuasive.

13. On pages 7- 10 of the Response, Applicant argues that IAD may be used as a PVD and provides evidence of the commercial availability of IADs.

Examiner respectfully disagrees.

It is clear from the Applicant's arguments on page 8 regarding IAD and PVD, that these are different groups of devices. Therefore the attached exhibits regarding IADs are irrelevant, because they are directed to a different group of devices

14. On page 10 of the Response, Applicant argues that because PVD functions are well known in the art, providing the details of their operation, interfaces and installation is not necessary.

Examiner respectfully disagrees.

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The attempt to incorporate subject matter into this application by a reference to PVD products is improper because essential material should be disclosed in the application.

15. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'DL' followed by a stylized name.

Dmitry Levitan
Patent Examiner.
09/06/05